

0053008.0005460

FIG. 1A

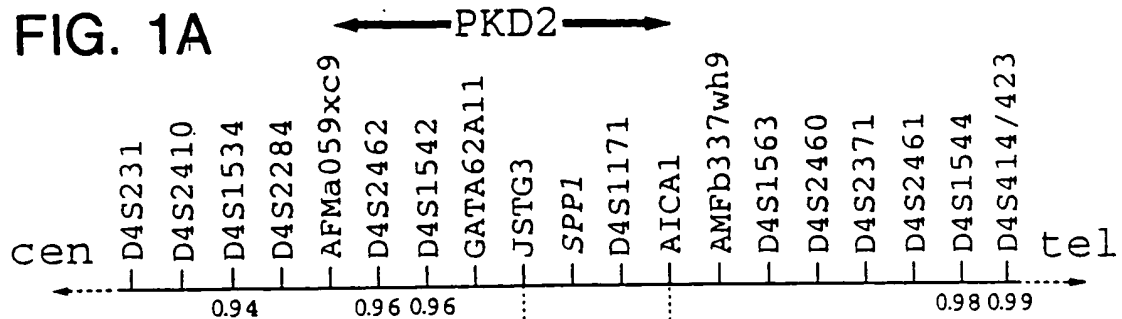


FIG. 1B

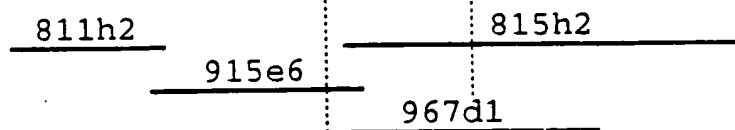


FIG. 1C

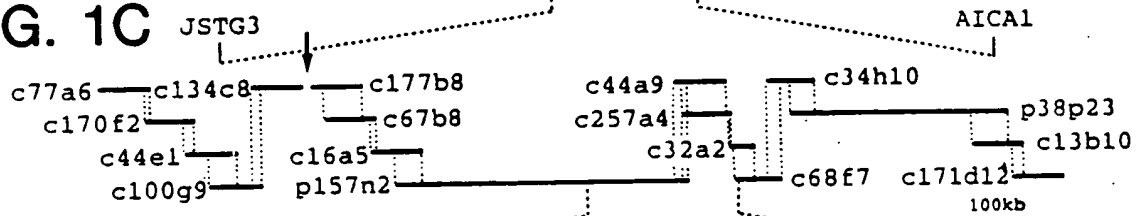


FIG. 1D

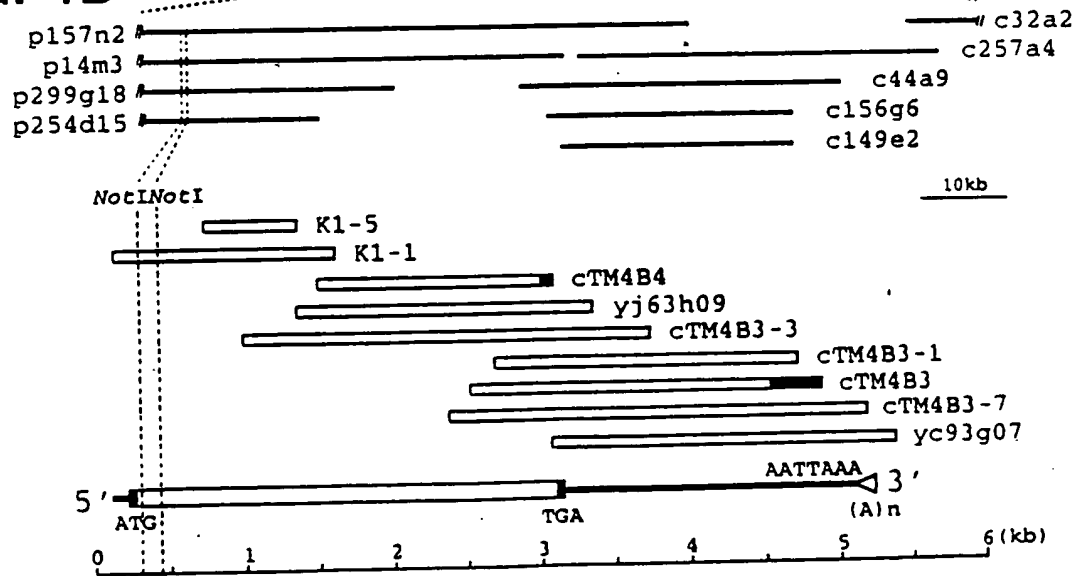


FIG. 1E

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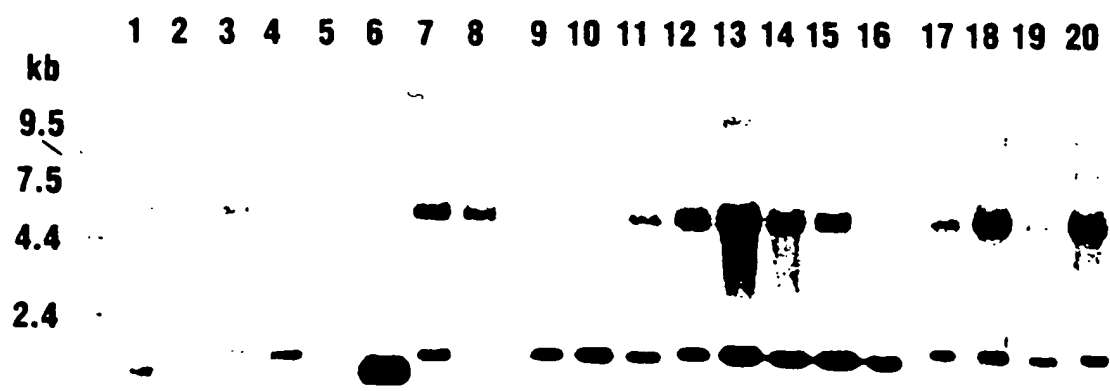
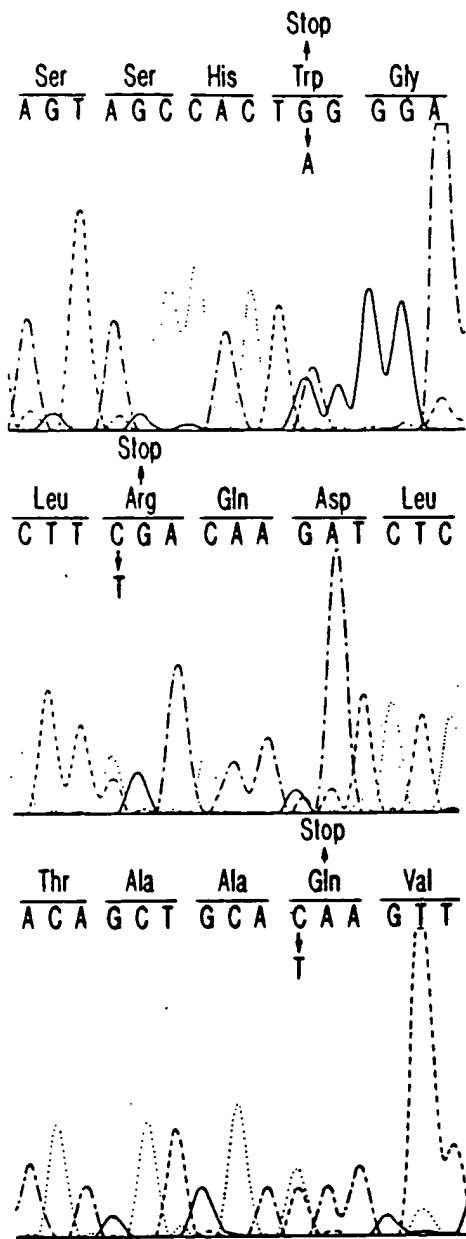
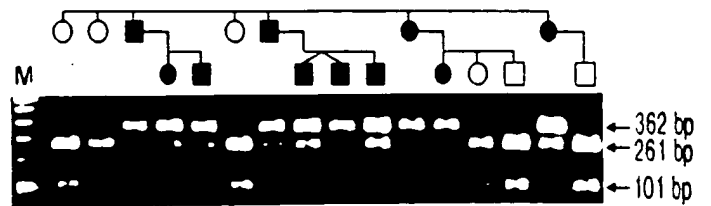


FIG. 2

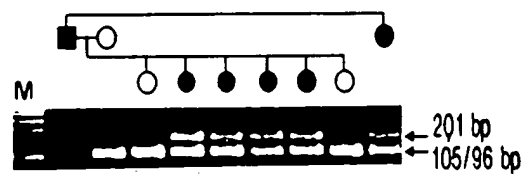
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Family 97



Family 1605



Family 1601

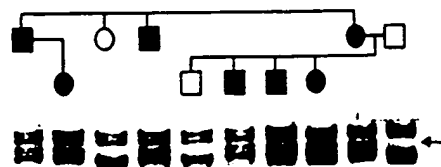


FIG. 3

CTM-4 MVNSSRVQPOQPDGAKRPPAPRAPDGRMLMAGCAAVGASLAAPGCLCEORGLIEIMQIRQAARDPPAGAASPSPLSSCSRQAWSRONPGFEAESEE 100

CTM-4 EEVEEGEGMVVENDVWEPGSRGSAASSAVSSVGARSNGLGCGYHGAGHPGGRRRRRREDQGPSPSPVGGDPLHRLHPLLEGOPRVAMERLVRLGLRL 200

CTM-4 WGRTRLMEESSSTNREKYLKSVLRELVTYLLFLVLICILITTYGMSSNVVYTRMNSOLFDTDPVSKTEKTNFKTLSSMEDFWKFTEGSLDGLYWKHPQSNQ 300
 PKD1 (3655) FLAKEARKVKRLHGMRLSLVYLMFLVTLTLLASXGDASCHGAY.RLOS... AIKQELHSRAFLAITRSEELWPMMAHVLLPVH... GNO
 ZK945.9 (1708) ENRKMRDEOLFITIRDMHLCFFASLYIMVMTLYICKDRHGMYOLEMSTILINOKNYGONT.FMSIQHADDFWWARESLATALLASWYDGNP

CTM-4 TEADNRSFIYENLLGLVPRIRQLRVRNNGSCSIPODILDEIKECYDVYSVSSSEDRAPFGPRNGTA.WIY.TSEKDLNGSSHMGIIATYSAGAYLDSRTRE 400
 PKD1 SSPE... LGPRLRQVRLQOALYDPDPGPRVHTCSAAGGFSTSDYDVGMESPHNGSGTWAY.SAPDLGAMSWGSCAVYPSGGYVOELGLSLE
 ZK945.9 AYGMRAYMNDKVSRSMSGIGTIRQVTRTKS (1828) (1878) YTYKTSE.ELSTETVSGLLYSISGGCYTISMSGTQA

CTM-4 ETAQVASLKKNVWLDRGRATFIDFSVYNANINLFCVVRLLVEFPATGVIPSWQOPKLIRYVTTFDFFLAACEIIFCFFIFYVVEILE.IRIHKL 500
 PKD1 ESRDRLRFLQHNHMLDNRSRAVLELTRYSPAVGLMAVTLRLEFPAGRALAALSVRPFALRRLSAGLSPLTSLVCLLLEFAVHFAVAEARTW.HREGRW
 ZK945.9 EITLFNKLDSERMIDHTRAVIIEFSAYNAQINFSVQVLVEIPKSGIYLPNSWESVRLIKSESGDGTVKYEMLYIFFSVLIFVKEIV (2005) (1517) FTMVFSLECVLKVIAFGFL

CTM-4 HYFR.SFMNCLDVIVIVLSVAIGINIYRTSNEV.LLOEL.EDONTFNEHLAYMOIOFNINIAAVTFEFVMIKLFKEINFNRTMSQDSTMSRCAKOLF 598
 PKD1 RVLRLGAMARMLLVALTAATAVLRLAQLGADRQ.WTRFVRGRPRRTSFDQVAQLSSAARGLASLLELLVKAQOQLRFVRQMSVFGKTLCRALPELL
 ZK945.9 (2039) WNFMDLIVGALAVASVLAITYIRORTTNRAMEDENANNNGNSYINLTEQRNWEIVESYCLAGAVFETSCMRIRILRFNRIGVLAATLDNALGAIY
 VACCAIE-1 NYFR.DTNMIFDFITVIGSITEIILLTDSKLVNTSG.F.....NMSFLK.....LFRARLIKLLRQGYTIRILMTFVQSFKALP

CTM-4 GFAIMFFIIFLAVYQLAYLVFGTOVDSTFOECIFTOFRILGLDINFAEIEAN.RVLGPRIYFTTFVFFMFFILLNMFIAIINDTYSEVKSDL..AQOKA 696
 PKD1 GVTGLVLGVAVYAQLAILLVSSCVDSLSMSVAQALL...VLCPGTGLSTICPAESMHLSPILCVGIMALRLMGALRLGAVILRMRYHALRGELLYRAPMEPO
 ZK945.9 SFGIAFLFESMTFNSVLYAVLGNKMGYRSLSMATFOTALAGMLGKLDVTSIQP....ISOFAFVIMLYMI(2199)
 VACCAIE-1 YVCLLIAMLFFIYAIIGMOVFG NNFERSFFGLMLLFRSATGE.AMOEIERCG.TDLAYVYEVFSIFFCSFLMLNMFVAVIMDNFEYLTRD.....
 (1630) (1644) (1668) (1692) 1605

CTM-4 EMELSDLIRKGYHAKLVKLKKNNVDDISESLRGGGKLNFDLRLQDLKRGKHTDAIEAIFTKYDQDDQDELTEHGHQMRDQLEKEREDELDDHSSLPR 800
 PKD1 DYEMVELF.....LRLRL (4139) (2216) EFFEIRNDSEKQTNDEI (2233)

ZK945.9

VACCAIE-1

CTM-4 PMSRSFPRSLDDSEDDDEDSGHSSRRRGSISSGVSYEEFQVLVRRVDRMHSIGSIVSKIDAVIVKLEIMERAKLRREVLRLLDGVAEDERLGRDSEI 900

CTM-4 HREOMERLVRREELERMESDDAASQISHGLGTPVGLNGQPRPRSSSSOS.TEGMEGAGNGSSNVHV 968
 VACCAIE-1 (2039) ERRRSKERKHLSPDVSRCSNSEEERGTOADWESPERKOSRSPSEGRSOTPNRQGTGSLSESSI (2100)

FIG. 4A

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[illegible]

FIG. 4B

[illegible]

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | GGC | TCC | TGA | GGC | GCA | CAG | 18 |
| CGC | CGA | GCG | CGG | CGC | CGC | GCA | CCC | GCG | CGC | CGG | ACG | CCA | GTG | ACC | GCG | | 66 |
| ATG | GTG | AAC | TCC | AGT | CGC | GTG | CAG | CCT | CAG | CAG | CCC | GGG | GAC | GCC | AAG | | 114 |
| Met | Val | Asn | Ser | Ser | Arg | Val | Gln | Pro | Gln | Gln | Pro | Gly | Asp | Ala | Lys | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| CGG | CCG | CCC | GCG | CCC | CGC | GCG | CCG | GAC | CCG | GGC | CGG | CTG | ATG | GCT | GGC | | 162 |
| Arg | Pro | Pro | Ala | Pro | Arg | Ala | Pro | Asp | Pro | Gly | Arg | Leu | Met | Ala | Gly | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| TGC | GCG | GCC | GTG | GGC | GCC | AGC | CTC | GCC | GCC | CCG | GGC | GGC | CTC | TGC | GAG | | 210 |
| Cys | Ala | Ala | Val | Gly | Ala | Ser | Leu | Ala | Ala | Pro | Gly | Gly | Leu | Cys | Glu | | |
| | | | 35 | | | | 40 | | | | | 45 | | | | | |
| CAG | CGG | GGC | CTG | GAG | ATC | GAG | ATG | CAG | CGC | ATC | CGG | CAG | GCG | GCC | GCG | | 258 |
| Gln | Arg | Gly | Leu | Glu | Ile | Glu | Met | Gln | Arg | Ile | Arg | Gln | Ala | Ala | Ala | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| CGG | GAC | CCC | CCG | GCC | GGA | GCC | GCG | GCC | TCC | CCT | TCT | CCT | CCG | CTC | TCG | | 306 |
| Arg | Asp | Pro | Pro | Ala | Gly | Ala | Ala | Ala | Ser | Pro | Ser | Pro | Pro | Leu | Ser | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| TCG | TGC | TCC | CGG | CAG | GCG | TGG | AGC | CGC | GAT | AAC | CCC | GGC | TTC | GAG | GCC | | 354 |
| Ser | Cys | Ser | Arg | Gln | Ala | Trp | Ser | Arg | Asp | Asn | Pro | Gly | Phe | Glu | Ala | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| GAG | GAG | GAG | GAG | GAG | GAG | GTG | GAA | GGG | GAA | GAA | GGC | GGA | ATG | GTG | GTG | | 402 |
| Glu | Glu | Glu | Glu | Glu | Glu | Val | Glu | Gly | Glu | Glu | Gly | Gly | Met | Val | Val | | |
| | | | | 100 | | | | 105 | | | | | 110 | | | | |
| GAG | ATG | GAC | GTA | GAG | TGG | CGC | CCG | GGC | AGC | CGG | AGG | TCG | GCC | GCC | TCC | | 450 |
| Glu | Met | Asp | Val | Glu | Trp | Arg | Pro | Gly | Ser | Arg | Arg | Ser | Ala | Ala | Ser | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| TCG | GCC | GTG | AGC | TCC | GTG | GGC | GCG | CGG | AGC | CGG | GGG | CTT | GGG | GGC | TAC | | 498 |
| Ser | Ala | Val | Ser | Ser | Val | Gly | Ala | Arg | Ser | Arg | Gly | Leu | Gly | Gly | Tyr | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| CAC | GGC | GCG | GGC | CAC | CCG | AGC | GGG | AGG | CGG | CGC | CGG | CGA | GAG | GAC | CAG | | 546 |
| His | Gly | Ala | Gly | His | Pro | Ser | Gly | Arg | Arg | Arg | Arg | Arg | Glu | Asp | Gln | | |
| 145 | | | | | 150 | | | | 155 | | | | | | 160 | | |
| GGC | CCG | CCG | TGC | CCC | AGC | CCA | GTC | GGC | GGC | GGG | GAC | CCG | CTG | CAT | CGC | | 594 |
| Gly | Pro | Pro | Cys | Pro | Ser | Pro | Val | Gly | Gly | Gly | Asp | Pro | Leu | His | Arg | | |
| | | | | 165 | | | | 170 | | | | | | 175 | | | |
| CAC | CTC | CCC | CTG | GAA | GGG | CAG | CCG | CCC | CGA | GTG | GCC | TGG | GCG | GAG | AGG | | 642 |
| His | Leu | Pro | Leu | Glu | Gly | Gln | Pro | Pro | Arg | Val | Ala | Trp | Ala | Glu | Arg | | |
| | | | | 180 | | | | 185 | | | | | | 190 | | | |

FIG. 5A

| | | | | | | | | | | | | | | | | |
|-------------------|-------------------|-------------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| CTG Leu | GTT Val | CGC Arg 195 | GGG Gly | CTG Leu | CGA Arg | GGT Gly | CTC Leu 200 | TGG Trp | GGA Gly | ACA Thr | AGA Arg | CTC Leu 205 | ATG Met | GAG Glu | GAA Glu | 690 |
| AGC Ser | AGC Ser 210 | ACT Thr | AAC Asn | CGA Arg | GAG Glu | AAA Lys 215 | TAC Tyr | CTT Leu | AAA Lys | AGT Ser | GTT Val 220 | TTA Leu | CGG Arg | GAA Glu | CTG Leu | 738 |
| GTC Val 225 | ACA Thr | TAC Tyr | CTC Leu | CTT Leu | TTT Phe 230 | CTC Leu | ATA Ile | GTC Val | TTG Leu | TGC Cys 235 | ATC Ile | TTG Leu | ACC Thr | TAC Tyr | GGC Gly 240 | 786 |
| ATG Met | ATG Met | AGC Ser | TCC Ser | AAT Asn 245 | GTG Val | TAC Tyr | TAC Tyr | TAC Tyr | ACC Thr 250 | CGG Arg | ATG Met | ATG Met | TCA Ser | CAG Gln 255 | CTC Leu | 834 |
| TTC Phe | CTA Leu | GAC Asp 260 | ACC Thr | CCC Pro | GTG Val | TCC Ser | AAA Lys | ACG Thr 265 | GAG Glu | AAA Lys | ACT Thr | AAC Asn | TTT Phe 270 | AAA Lys | ACT Thr | 882 |
| CTG Leu | TCT Ser 275 | TCC Ser | ATG Met | GAA Glu | GAC Asp | TTC Phe | TGG Trp 280 | AAG Lys | TTC Phe | ACA Thr | GAA Glu | GGC Gly 285 | TCC Ser | TTA Leu | TTG Leu | 930 |
| GAT Asp 290 | GGG Gly | CTG Leu | TAC Tyr | TGG Trp | AAG Lys | ATG Met 295 | CAG Gln | CCC Pro | AGC Ser | AAC Asn | CAG Gln 300 | ACT Thr | GAA Glu | GCT Ala | GAC Asp | 978 |
| AAC Asn 305 | CGA Arg | AGT Ser | TTC Phe | ATC Ile | TTC Phe 310 | TAT Tyr | GAG Glu | AAC Asn | CTG Leu | CTG Leu 315 | TTA Leu | GGG Gly | GTT Val | CCA Pro | CGA Arg 320 | 1026 |
| ATA Ile | CGG Arg | CAA Gln | CTC Leu | CGA Arg 325 | GTC Val | AGA Arg | AAT Asn | GGA Gly | TCC Ser 330 | TGC Cys | TCT Ser | ATC Ile | CCC Pro | CAG Gln 335 | GAC Asp | 1074 |
| TTG Leu | AGA Arg | GAT Asp 340 | GAA Glu | ATT Ile | AAA Lys | GAG Glu | TGC Cys 345 | TAT Tyr | GAT Asp | GTC Val | TAC Tyr | TCT Ser | GTC Val 350 | AGT Ser | AGT Ser | 1122 |
| GAA Glu | GAT Asp 355 | AGG Arg | GCT Ala | CCC Pro | TTT Phe | GGG Gly | CCC Pro 360 | CGA Arg | AAT Asn | GGA Gly | ACC Thr | GCT Ala 365 | TGG Trp | ATC Ile | TAC Tyr | 1170 |
| ACA Thr 370 | AGT Ser | GAA Glu | AAA Lys | GAC Asp | TTG Leu | AAT Asn 375 | GGT Gly | AGT Ser | AGC Ser | CAC His | TGG Trp 380 | GGA Gly | ATC Ile | ATT Ile | GCA Ala | 1218 |
| ACT Thr 385 | TAT Tyr | AGT Ser | GGA Gly | GCT Ala | GGC Gly 390 | TAT Tyr | TAT Tyr | CTG Leu | GAT Asp | TTG Leu 395 | TCA Ser | AGA Arg | ACA Thr | AGA Arg | GAG Glu 400 | 1266 |

FIG. 5B

| | | | | | | | | | | | | | | | | |
|-------------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| GAA Glu | ACA Thr | GCT Ala | GCA Ala | CAA Gln 405 | GTT Val | GCT Ala | AGC Ser | CTC Leu | AAG Lys 410 | AAA Lys | AAT Asn | GTC Val | TGG Trp | CTG Leu 415 | GAC Asp | 1314 |
| CGA Arg | GGA Gly | ACC Thr | AGG Arg 420 | GCA Ala | ACT Thr | TTT Phe | ATT Ile | GAC Asp 425 | TTC Phe | TCA Ser | GTG Val | TAC Tyr | AAC Asn 430 | GCC Ala | AAC Asn | 1362 |
| ATT Ile | AAC Asn | CTG Leu 435 | TTC Phe | TGT Cys | GTG Val | GTC Val | AGG Arg 440 | TTA Leu | TTG Leu | GTT Val | GAA Glu 445 | TTC Phe | CCA Pro | GCA Ala | ACA Thr | 1410 |
| GGT Gly 450 | GGT Gly | GTG Val | ATT Ile | CCA Pro | TCT Ser | TGG Trp 455 | CAA Gln | TTT Phe | CAG Gln | CCT Pro | TTA Leu 460 | AAG Lys | CTG Leu | ATC Ile | CGA Arg | 1458 |
| TAT Tyr 465 | GTC Val | ACA Thr | ACT Thr | TTT Phe | GAT Asp 470 | TTC Phe | TTC Phe | CTG Leu | GCA Ala | GCC Ala 475 | TGT Cys | GAG Glu | ATT Ile | ATC Ile | TTT Phe 480 | 1506 |
| TGT Cys | TTC Phe | TTT Phe | ATC Ile | TTT Phe 485 | TAC Tyr | TAT Tyr | GTG Val | GTG Val | GAA Glu 490 | GAG Glu | ATA Ile | TTG Leu | GAA Glu 495 | ATT Ile | CGC Arg | 1554 |
| ATT Ile | CAC His | AAA Lys | CTA Leu 500 | CAC His | TAT Tyr | TTC Phe | AGG Arg | AGT Ser 505 | TTC Phe | TGG Trp | AAT Asn | TGT Cys | CTG Leu 510 | GAT Asp | GTT Val | 1602 |
| GTG Val | ATC Ile | GTT Val 515 | GTG Val | CTG Leu | TCA Ser | GTG Val | GTA Val 520 | GCT Ala | ATA Ile | GGA Gly | ATT Ile | AAC Asn 525 | ATA Ile | TAC Tyr | AGA Arg | 1650 |
| ACA Thr 530 | TCA Ser | AAT Asn | GTG Val | GAG Glu | GTG Val | CTA Leu 535 | CTA Leu | CAG Gln | TTT Phe | CTG Leu | GAA Glu 540 | GAT Asp | CAA Gln | AAT Asn | ACT Thr | 1698 |
| TTC Phe 545 | CCC Pro | AAC Asn | TTT Phe | GAG Glu | CAT His 550 | CTG Leu | GCA Ala | TAT Tyr | TGG Trp | CAG Gln 555 | ATA Ile | CAG Gln | TTC Phe | AAC Asn | AAT Asn 560 | 1746 |
| ATA Ile | GCT Ala | GCT Ala | GTC Val | ACA Thr 565 | GTA Val | TTT Phe | TTT Phe | GTC Val | TGG Trp 570 | ATT Ile | AAG Lys | CTC Leu | TTC Phe | AAA Lys 575 | TTC Phe | 1794 |
| ATC Ile | AAT Asn | TTT Phe | AAC Asn 580 | AGG Arg | ACC Thr | ATG Met | AGC Ser | CAG Gln 585 | CTC Leu | TCG Ser | ACA Thr | ACC Thr | ATG Met 590 | TCT Ser | CGA Arg | 1842 |
| TGT Cys | GCC Ala | AAA Lys 595 | GAC Asp | CTG Leu | TTT Phe | GGC Gly | TTT Phe 600 | GCT Ala | ATT Ile | ATG Met | TTC Phe | TTC Phe 605 | ATT Ile | ATT Ile | TTC Phe | 1890 |

FIG. 5C

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| | |
|---|------|
| CTA GCG TAT GCT CAG TTG GCA TAC CTT GTC TTT GGC ACT CAG GTC GAT | 1938 |
| Leu Ala Tyr Ala Gln Leu Ala Tyr Leu Val Phe Gly Thr Gln Val Asp | |
| 610 615 620 | |
| GAC TTC AGT ACT TTC CAA GAG TGT ATC TTC ACT CAA TTC CGT ATC ATT | 1986 |
| Asp Phe Ser Thr Phe Gln Glu Cys Ile Phe Thr Gln Phe Arg Ile Ile | |
| 625 630 635 640 | |
| TTG GGC GAT ATC AAC TTT GCA GAG ATT GAG GAA GCT AAT CGA GTT TTG | 2034 |
| Leu Gly Asp Ile Asn Phe Ala Glu Ile Glu Glu Ala Asn Arg Val Leu | |
| 645 650 655 | |
| GGA CCA ATT TAT TTC ACT ACA TTT GTG TTC TTT ATG TTC TTC ATT CTT | 2082 |
| Gly Pro Ile Tyr Phe Thr Thr Phe Val Phe Phe Met Phe Phe Ile Leu | |
| 660 665 670 | |
| TTG AAT ATG TTT TTG GCT ATC ATC AAT GAT ACT TAC TCT GAA GTG AAA | 2130 |
| Leu Asn Met Phe Leu Ala Ile Ile Asn Asp Thr Tyr Ser Glu Val Lys | |
| 675 680 685 | |
| TCT GAC TTG GCA CAG CAG AAA GCT GAA ATG GAA CTC TCA GAT CTT ATC | 2178 |
| Ser Asp Leu Ala Gln Gln Lys Ala Glu Met Glu Leu Ser Asp Leu Ile | |
| 690 695 700 | |
| AGA AAG GGC TAC CAT AAA GCT TTG GTC AAA CTA AAA CTG AAA AAA AAT | 2226 |
| Arg Lys Gly Tyr His Lys Ala Leu Val Lys Leu Lys Leu Lys Lys Asn | |
| 705 710 715 720 | |
| ACC GTG GAT GAC ATT TCA GAG AGT CTG CGG CAA GGA GGA GGC AAG TTA | 2274 |
| Thr Val Asp Asp Ile Ser Glu Ser Leu Arg Gln Gly Gly Gly Lys Leu | |
| 725 730 735 | |
| AAC TTT GAC GAA CTT CGA CAA GAT CTC AAA GGG AAG GGC CAT ACT GAT | 2322 |
| Asn Phe Asp Glu Leu Arg Gln Asp Leu Lys Gly Lys Gly His Thr Asp | |
| 740 745 750 | |
| GCA GAG ATT GAG GCA ATA TTC ACA AAG TAC GAC CAA GAT GGA GAC CAA | 2370 |
| Ala Glu Ile Glu Ala Ile Phe Thr Lys Tyr Asp Gln Asp Gly Asp Gln | |
| 755 760 765 | |
| GAA CTG ACC GAA CAT GAA CAT CAG CAG ATG AGA GAC GAC TTG GAG AAA | 2418 |
| Glu Leu Thr Glu His Glu His Gln Gln Met Arg Asp Asp Leu Glu Lys | |
| 770 775 780 | |
| GAG AGG GAG GAC CTG GAT TTG GAT CAC AGT TCT TTA CCA CGT CCC ATG | 2466 |
| Glu Arg Glu Asp Leu Asp Leu Asp His Ser Ser Leu Pro Arg Pro Met | |
| 785 790 795 800 | |
| AGC AGC CGA AGT TTC CCT CGA AGC CTG GAT GAC TCT GAG GAG GAT GAC | 2514 |
| Ser Ser Arg Ser Phe Pro Arg Ser Leu Asp Asp Ser Glu Glu Asp Asp | |
| 805 810 815 | |

FIG. 5D

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| GAT | GAA | GAT | AGC | GGA | CAT | AGC | TCC | AGA | AGG | AGG | GGA | AGC | ATT | TCT | AGT | 2562 |
| Asp | Glu | Asp | Ser | Gly | His | Ser | Ser | Arg | Arg | Arg | Gly | Ser | Ile | Ser | Ser | |
| | | | 820 | | | | | 825 | | | | | 830 | | | |
| GGC | GTT | TCT | TAC | GAA | GAG | TTT | CAA | GTC | CTG | GTG | AGA | CGA | GTG | GAC | CGG | 2610 |
| Gly | Val | Ser | Tyr | Glu | Glu | Phe | Gln | Val | Leu | Val | Arg | Arg | Val | Asp | Arg | |
| | | 835 | | | | | 840 | | | | | 845 | | | | |
| ATG | GAG | CAT | TCC | ATC | GGC | AGC | ATA | GTG | TCC | AAG | ATT | GAC | GCC | GTG | ATC | 2658 |
| Met | Glu | His | Ser | Ile | Gly | Ser | Ile | Val | Ser | Lys | Ile | Asp | Ala | Val | Ile | |
| | 850 | | | | | 855 | | | | | 860 | | | | | |
| GTG | AAG | CTA | GAG | ATT | ATG | GAG | CGA | GCC | AAA | CTG | AAG | AGG | AGG | GAG | GTG | 2706 |
| Val | Lys | Leu | Glu | Ile | Met | Glu | Arg | Ala | Lys | Leu | Lys | Arg | Arg | Glu | Val | |
| 865 | | | | | 870 | | | | | 875 | | | | | 880 | |
| CTG | GGA | AGG | CTG | TTG | GAT | GGG | GTG | GCC | GAG | GAT | GAA | AGG | CTG | GGT | CGT | 2754 |
| Leu | Gly | Arg | Leu | Leu | Asp | Gly | Val | Ala | Glu | Asp | Glu | Arg | Leu | Gly | Arg | |
| | | | | 885 | | | | | 890 | | | | | 895 | | |
| GAC | AGT | GAA | ATC | CAT | AGG | GAA | CAG | ATG | GAA | CGG | CTA | GTA | CGT | GAA | GAG | 2802 |
| Asp | Ser | Glu | Ile | His | Arg | Glu | Gln | Met | Glu | Arg | Leu | Val | Arg | Glu | Glu | |
| | | | 900 | | | | | 905 | | | | | 910 | | | |
| TTG | GAA | CGC | TGG | GAA | TCC | GAT | GAT | GCA | GCT | TCC | CAG | ATC | AGT | CAT | GGT | 2850 |
| Leu | Glu | Arg | Trp | Glu | Ser | Asp | Asp | Ala | Ala | Ser | Gln | Ile | Ser | His | Gly | |
| | | 915 | | | | | 920 | | | | | 925 | | | | |
| TTA | GGC | ACG | CCA | GTG | GGA | CTA | AAT | GGT | CAA | CCT | CGC | CCC | AGA | AGC | TCC | 2898 |
| Leu | Gly | Thr | Pro | Val | Gly | Leu | Asn | Gly | Gln | Pro | Arg | Pro | Arg | Ser | Ser | |
| | 930 | | | | | 935 | | | | | 940 | | | | | |
| CGC | CCA | TCT | TCC | TCC | CAA | TCT | ACA | GAA | GGC | ATG | GAA | GGT | GCA | GGT | GGA | 2946 |
| Arg | Pro | Ser | Ser | Ser | Gln | Ser | Thr | Glu | Gly | Met | Glu | Gly | Ala | Gly | Gly | |
| 945 | | | | | 950 | | | | | 955 | | | | | 960 | |
| AAT | GGG | AGT | TCT | AAT | GTC | CAC | GTA | TGA | TAT | GTG | TGT | TTC | AGT | ATG | TGT | 2994 |
| Asn | Gly | Ser | Ser | Asn | Val | His | Val | | | | | | | | | |
| | | | | 965 | | | | | | | | | | | | |
| GTT | TCT | AAT | AAG | TGA | GGA | AGT | GGC | TGT | CCT | GAA | TTG | CTG | TAA | CAA | GCA | 3042 |
| CAC | TAT | TTA | TAT | GCC | CTG | ACC | ACC | ATA | GGA | TGC | TAG | TCT | TTG | TGA | CCG | 3090 |
| ATT | GCT | AAT | CTT | CTG | CAC | TTT | AAT | TTA | TTT | TAT | ATA | AAC | TTT | ACC | CAT | 3138 |
| GGT | TCA | AAG | ATT | TTT | TTT | TCT | TTT | TCT | CAT | ATA | AGA | AAT | CTA | GGT | GTA | 3186 |
| AAT | ATT | GAG | TAC | AGA | AAA | AAA | ATC | TTC | ATG | ATG | TGT | ATT | GAG | CGG | TAC | 3234 |
| GCC | CAG | TTG | CCA | CCA | TGA | CTG | AGT | CTT | CTC | AGT | TGA | CAA | TGA | AGT | AGC | 3282 |

FIG. 5E

| | |
|---|------|
| CTT TTA AAG CTA GAA AAC TGT CAA AGG GCT TCT GAG TTT CAT TTC CAG | 3330 |
| TCA CAA AAA TCA GTA TTG TTA TTT TTT TCC AAG AGT GTG AAG GAA AAT | 3378 |
| GGG GCA ATT CCT TTC CAC TCT GGC ATA GTT CAT GAG CTT AAT ACA TAG | 3426 |
| CTT TCT TTT AAG AAA GGA GCC TTT TTT TTC AAC TAG CTT CCT GGG GTA | 3474 |
| AAC TTT TCT AAA AGA TAA AAT GGG AAG GAA CTC CAA ACT ATG ATA GAA | 3522 |
| TCT GTG TGA ATG GTT AAG ATG AAT GTT AAA TAC TAT GCT TTT TTG TAA | 3570 |
| GTT GAT CGT ATC TGA TGT CTG TGG GAC TAA CTG TAT CAC TTA ATT TTT | 3618 |
| ACC TTA TTT TGG CTC TAA TTT GAA TAA GCT GAG TAA AAC CAC CAA AGA | 3666 |
| TCA GTT ATA GGA TAA AAT GGC ATC TCT AAC CAT AAC ACA GGA GAA TTG | 3714 |
| GAA GGA GCC CTA AGT TGT CAC TCA GTT TAA TTT CTT TTA ATG GTT AGT | 3762 |
| TTA GCC TAA AGA TTT ATC TGC ATA TTC TTT TTC CCA TGT GGC TCT ACT | 3810 |
| CAT TTG CAA CTG AAT TTA ATG TTA TAA CTC ATC TAG TGA GAC CAA CTT | 3858 |
| ACT AAA TTT TTA GTA TGC ACT GAA AGT TTT TAT CCA ACA ATT ATG TTC | 3906 |
| ATT TTA AGC AAA ATT TTA AGA AAG TTT TGA AAT TCA TAA AGC ATT TGG | 3954 |
| TTT TAA ACT ATT TTA AGA ATA TAG TAC TCG GTC AGG TAT GNN NCA CGC | 4002 |
| CTG TAA TCC CAG CAC TTT GGG AGG CCG AAA CAG GCG AAT CAC TTG AGC | 4050 |
| CCA GGA GTT CAA GAC CAA CAT GGG CAA TGT GGC GAA ACT CCA TCT CTA | 4098 |
| CAA AAA ATG CAA AAA TAA AAA ATA TAG TAC TCA AGT ATT CTT GAT CCT | 4146 |
| GTG TTT CAA AAC TAG AAT TTG TAA TGC AAA TGG AGC TCA GTC TAA TAA | 4194 |
| AAA AGA GGT TTT GGT ATT AAA AGT TCA TAC ATT AGA CAG TAT CAG CCA | 4242 |
| AAA TTT GAG TTA GCA ACA CTG TTT TCT TTA CGA GAG GGT CTC ACC CAA | 4290 |
| ATT TAT GGG GAG AAA TCT ATT TCT CAA AAA AAA AAA ATC TTC TTT TAC | 4338 |
| AGA AAT GTT GAG TAA GGT GAC ATT TTG AGC GCT AAT AAG CAA AAG AGC | 4386 |
| ATG CAG TGC TGT TGA ATA ACC CTC ACT TGG AGA ACC AAG AGA ATC CTG | 4434 |
| TCG TTT AAT GCT ATA TTT TAA TTT CAC AAG TTG TTC ATT TAA CTG GTA | 4482 |
| GAA TGT CAG TCC AAT CTC CAA TGA GAA CAT GAG CAA ATA GAC CTT TCC | 4530 |

FIG. 5F

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AGG TTG AAA GTG AAA CAT ACT GGG TTT CTG TAA GTT TTT CCT CAT GGC 4578
TTC ATC TCT ATC TTT ACT TTC TCT TGA ATA TGC TAC ACA AAG TTC TTT 4626
ATT ACT ACA TAC TAA AGT TTG CAT TCC AGG GAT ATT GAC TGT ACA TAT 4674
TTA TGT ATA TGT ACC ATG TTG TTA CAT GTA AAC AAA CTT CAA TTT GAA 4722
GTG CAG CTA TTA TGT GGT ATC CAT GTG TAT CGA CCA TGT GCC ATA TAT 4770
CAA TTA TGG TCA CTA GAA AGT CTC TTT ATG ATA CTT TTT ATT GTA CTG 4818
TTT TTC ATT TCA CTT GCA AAA TTT TGC AGA ATT CCT CCT TTC TAC CCA 4866
TAA ATT ACA TAT AAT TTT TCT TCT TTA GTC ATG GAG AAC NCC CCC CCA 4914
TCA TCT CAN CCC TAT TAN CTT TCC CAT GTG TAC TGG TAT TAT TAA AAA 4962
GAC ATT TAC ATA CGC AAG TTT TTC ACT GAC AAN CAA GAA TGT TAT TAA 5010
TGT GTA ATA CTG AGC ACN TTT ACT TCT TAA TAA AAA CTT GAT ATA NT 5057

FIG. 5G